



PATENT

*Cofc*

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re U.S. Patent No. 7,035,451	)	Serial No. 09/925,932
	)	
Inventor(s): Philip Victor HARMAN <i>et al</i>	)	Filed: August 9, 2001
	)	
Issue Date: April 25, 2006	)	Attorney Docket No. 006020.00012

For: IMAGE CONVERSION AND ENCODING TECHNIQUES

**REQUEST FOR CERTIFICATE OF CORRECTION**

U.S. Patent and Trademark Office  
Customer Service Window  
Randolph Building, Mail Stop: Certificate of Correction Branch  
401 Dulany Street  
Alexandria, VA 22314

Sir:

Pursuant to 35 U.S.C. § 254 and 37 C.F.R. § 1.322, this is a request for the issuance of a Certificate of Correction in the above-identified patent. Two (2) copies of PTO Form 1050 are appended. The complete Certificate of Correction involves one page.

The mistakes identified in the appended Form occurred through no fault of the Applicants, as clearly disclosed by the records of the application, which matured into this patent. Enclosed for your convenience is the relevant portion of the Examiner's Amendment, enclosed with the Notice of Allowance dated September 15, 2005.

Issuance of the Certificate of Correction containing the corrections is respectfully requested. Since these changes are necessitated through no fault of the Applicants, no fee is believed to be associated with this request. Nonetheless, should the Patent and Trademark Office determine that a fee is required, please charge our Deposit Account No. 19-0733.

Respectfully submitted,

BANNER & WITCOFF, LTD.

Dated: July 12, 2006

By:

*Gary D. Fedorochko*  
\_\_\_\_\_  
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Registration No. 35,509

1001 G Street, N.W. (11th Fl.)  
Washington, D.C. 20001  
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**Certificate**  
**JUL 14 2006**  
**of Correction**

0006

UNITED STATES PATENT AND TRADEMARK OFFICE  
**CERTIFICATE OF CORRECTION**

PATENT NO.: 7,035,451  
DATED: April 25, 2006  
INVENTOR(S): Philip Victor HARMAN *et al*

It is certified that errors appear in the above-identified patent and that said Letters Patent is hereby corrected as shown below:

In Column 20, Claim 39, Line 3:

Please replace "a depth map" with --depth maps-- and replace "one frame" with --two key frames--

In Column 20, Claim 39, Line 5:

Please replace "at least one depth map" with --depth maps--

Mailing Address of Sender:

Banner & Witcoff, Ltd.  
11th Floor  
1001 G Street, N.W.  
Washington, DC 20001-4597

U.S. PAT. NO 7,035,451

No. of add'l copies  
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UNITED STATES PATENT AND TRADEMARK OFFICE  
**CERTIFICATE OF CORRECTION**

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DATED: April 25, 2006  
INVENTOR(S): Philip Victor HARMAN *et al*

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FORM PTO 1050 (Rev.2-93)

U.S. PAT. NO 7,035,451

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# UNITED STATES PATENT AND TRADEMARK OFFICE

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## NOTICE OF ALLOWANCE AND FEE(S) DUE

22907 7590 09/15/2005  
BANNER & WITCOFF  
1001 G STREET N W  
SUITE 1100  
WASHINGTON, DC 20001

EXAMINER

BALI, VIKRAM

ART UNIT

PAPER NUMBER

2623

DATE MAILED: 09/15/2005

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/925,932	08/09/2001	Philip Victor Harman	006020.00012	4929

TITLE OF INVENTION: IMAGE CONVERSION AND ENCODING TECHNIQUES

APPLN. TYPE	SMALL ENTITY	ISSUE FEE	PUBLICATION FEE	TOTAL FEE(S) DUE	DATE DUE
nonprovisional	YES	\$700	\$300	\$1000	12/15/2005

THE APPLICATION IDENTIFIED ABOVE HAS BEEN EXAMINED AND IS ALLOWED FOR ISSUANCE AS A PATENT. PROSECUTION ON THE MERITS IS CLOSED. THIS NOTICE OF ALLOWANCE IS NOT A GRANT OF PATENT RIGHTS. THIS APPLICATION IS SUBJECT TO WITHDRAWAL FROM ISSUE AT THE INITIATIVE OF THE OFFICE OR UPON PETITION BY THE APPLICANT. SEE 37 CFR 1.313 AND MPEP 1308.

THE ISSUE FEE AND PUBLICATION FEE (IF REQUIRED) MUST BE PAID WITHIN THREE MONTHS FROM THE MAILING DATE OF THIS NOTICE OR THIS APPLICATION SHALL BE REGARDED AS ABANDONED. THIS STATUTORY PERIOD CANNOT BE EXTENDED. SEE 35 U.S.C. 151. THE ISSUE FEE DUE INDICATED ABOVE REFLECTS A CREDIT FOR ANY PREVIOUSLY PAID ISSUE FEE APPLIED IN THIS APPLICATION. THE PTOL-85B (OR AN EQUIVALENT) MUST BE RETURNED WITHIN THIS PERIOD EVEN IF NO FEE IS DUE OR THE APPLICATION WILL BE REGARDED AS ABANDONED.

### HOW TO REPLY TO THIS NOTICE:

I. Review the SMALL ENTITY status shown above.

If the SMALL ENTITY is shown as YES, verify your current SMALL ENTITY status:

A. If the status is the same, pay the TOTAL FEE(S) DUE shown above.

B. If the status above is to be removed, check box 5b on Part B - Fee(s) Transmittal and pay the PUBLICATION FEE (if required) and twice the amount of the ISSUE FEE shown above, or

If the SMALL ENTITY is shown as NO:

A. Pay TOTAL FEE(S) DUE shown above, or

B. If applicant claimed SMALL ENTITY status before, or is now claiming SMALL ENTITY status, check box 5a on Part B - Fee(s) Transmittal and pay the PUBLICATION FEE (if required) and 1/2 the ISSUE FEE shown above.

II. PART B - FEE(S) TRANSMITTAL should be completed and returned to the United States Patent and Trademark Office (USPTO) with your ISSUE FEE and PUBLICATION FEE (if required). Even if the fee(s) have already been paid, Part B - Fee(s) Transmittal should be completed and returned. If you are charging the fee(s) to your deposit account, section "4b" of Part B - Fee(s) Transmittal should be completed and an extra copy of the form should be submitted.

III. All communications regarding this application must give the application number. Please direct all communications prior to issuance to Mail Stop ISSUE FEE unless advised to the contrary.

**IMPORTANT REMINDER:** Utility patents issuing on applications filed on or after Dec. 12, 1980 may require payment of maintenance fees. It is patentee's responsibility to ensure timely payment of maintenance fees when due.

**Notice of Allowability**

Application No.

09/925,932

Applicant(s)

HARMAN ET AL.

Examiner

Vikram Bali

Art Unit

2623

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to 4/19/2005.
2. ☒ The allowed claim(s) is/are 1-30, 37, 45, 49, 50-52, 58, 60-61 (renumbered as 1-39).
3. ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some\* c) ☐ None of the:
- ☒ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

\* Certified copies not received: \_\_\_\_\_.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.  
**THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.**

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
- (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
- 1) ☐ hereto or 2) ☐ to Paper No./Mail Date \_\_\_\_\_.
- (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date \_\_\_\_\_.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

**Attachment(s)**

- |   |   |
|---|---|
| 1. <input type="checkbox"/> Notice of References Cited (PTO-892)  | 5. <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)           |
| 2. <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                | 6. <input type="checkbox"/> Interview Summary (PTO-413),<br>Paper No./Mail Date _____ |
| 3. <input type="checkbox"/> Information Disclosure Statements (PTO-1449 or PTO/SB/08),<br>Paper No./Mail Date _____ | 7. <input checked="" type="checkbox"/> Examiner's Amendment/Comment                   |
| 4. <input type="checkbox"/> Examiner's Comment Regarding Requirement for Deposit<br>of Biological Material          | 8. <input checked="" type="checkbox"/> Examiner's Statement of Reasons for Allowance  |
|   | 9. <input type="checkbox"/> Other _____   |

20050908

Art Unit: 2623

$B_n$  is the value of the Blue component of the pixel at  $x_n, y_n$ .

60 (currently amended): A method of creating a series of depth maps for an image sequence including the steps of:

receiving a depth map for at least one frame of said image sequence;

utilizing said at least one depth map to determine a second algorithm to ascertain the depth characteristics as a function of x,y coordinates and image characteristics;

utilizing said algorithm to create a depth map for each frame of said image sequence;

wherein a learning algorithm is utilized to determine the configuration of said second algorithm; and

[as claimed in claim 43,] wherein said second algorithm computes:

$$z_n = k_a \cdot x_n + k_b \cdot y_n + k_c \cdot R_n + k_d \cdot G_n + k_e \cdot B_n + k_f \cdot T$$

where:

$n$  is the  $n$ th pixel in the image

$z_n$  is the value of the depth assigned to the pixel at  $x_n, y_n$

$k_a$  to  $k_f$  are constants previously determined by the algorithm

$R_n$  is the value of the Red component of the pixel at  $x_n, y_n$

$G_n$  is the value of the Green component of the pixel at  $x_n, y_n$

$B_n$  is the value of the Blue component of the pixel at  $x_n, y_n$

$T$  is a measurement of time, for this particular frame in the sequence.

61 (Currently amended) A method of creating a series of depth maps for an image sequence including the steps of:

receiving depth maps for at least two key frames of said image sequence;

utilizing said depth maps to determine a second algorithm to ascertain the depth characteristics as a function of x,y coordinates and image characteristics;

utilizing said algorithm to create a depth map of each frame of said image sequence, wherein frames adjacent said key frames are processed prior to non-adjacent frames;

[as claimed in claim 47,] wherein said second algorithm computes:

$$z_n = k_a \cdot x_n + k_b \cdot y_n + k_c \cdot R_n + k_d \cdot G_n + k_e \cdot B_n + k_f \cdot T$$

where: